

an imaging device having an array of pixels with pixel apertures with which the holographic grating aligns the color components of light along distinct, non-diverging paths.

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cont
2. (Amended) The system of claim 1 in which the imaging device defines a plane and the holographic grating aligns the distinct color components of light to be normal to the plane.

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4. (Amended) The system of claim 1 in which the lens array includes an array of cylindrical lenses.

5. (Amended) The system of claim 1 in which the holographic grating is continuous and without optical power.

6. (Amended) The system of claim 1 in which the holographic grating includes a volume hologram.

7. (Amended) The system of claim 1 further comprising a color divergence element that provides the diverging color components of light to the refractive lens array.

8. (Amended) The system of claim 7 in which the color divergence element includes plural angularly inclined dichroic mirrors for providing color separation of incident multi-color illumination light.

9. (Amended) The system of claim 7 in which the color divergence element includes a holographic grating for providing color separation of incident multi-color illumination light.

10. (Amended) The system of claim 9 in which the holographic grating of the color divergence element is substantially the same as the holographic grating for aligning the color components of light.

11. (Amended) The system of claim 1 in which the holographic grating delivers the distinct color components of light to a selected plane and is positioned substantially midway between the selected plane and the lens array.

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12. (Amended) In an optical system having a focusing element for focusing separated color components of light to plural distinct regions of an imaging plane, the improvement comprising:

a diffractive color dispersing layer positioned between the focusing element and the imaging plane for aligning the color components of light along distinct, non-diverging paths, the imaging plane including an array of pixel apertures of an electronic imaging device.

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20. (Amended) A telecentric color filtering method for providing telecentric color-filtered light to an imaging plane of an electronic imaging device, comprising:

forming plural diverging color light components;
directing the plural diverging color light components through a focusing element positioned before a holographic grating; and
directing the plural diverging color light components through the holographic grating to align the color light components along distinct, non-diverging paths that are telecentric with respect to the imaging plane.

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22. (Amended) The method of claim 20 in which the focusing element includes a lens array.

Remarks

Claims 1, 2, 4-20, and 22-24 are in the application. Claims 1, 12, and 20 are in independent form. Claims 3 and 21 have been cancelled. Reconsideration is requested.

Claims 1-24 stand rejected under 35 U.S.C. 102(b) for anticipation by Nakanishi et al. (Nakanishi). Applicant responds as follows.

Applicant notes that no specific rejection is made of claim 11. In the absence of allowance of claim 11, applicant notes that any specific rejection of claim 11 in the next action must be non-final.